

REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1, 17, 19, and 23 have been amended. No new matter is being presented, and approval and entry of the amendments is respectfully requested.

Claims 1, 2, 13-17, 19, 21, 23, 24, 27, 30, 38, 40, and 42 are pending and under consideration. Reconsideration is requested.

ENTRY OF AMENDMENT UNDER 37 C.F.R. §1.116:

Applicants request entry of this Rule 116 Response because:

(1) the amendments of claims 1, 17, 19, and 23 should not entail any further search by the Examiner since no new features are being added or no new issues are being raised; and

(2) the amendments do not significantly alter the scope of the claims and place the application at least into a better form for purposes of appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures sets forth in Section 714.12 that "any amendment that would place the case either in condition for allowance or in better form for appeal may be entered." Moreover, Section 714.13 sets forth that "the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action at pages 2-3, the Examiner rejects claims 1, 2, and 38 under 35 U.S.C. §103 in view of Campanelli, Hawkins et al. (U.S. Patent No. Re: 32,572) (hereafter "Hawkins '572"), and Hawkins et al. (U.S. Patent No. 5,006,202) (hereafter "Hawkins '02). The rejection is respectfully traversed and reconsideration is requested.

As a point of clarification, the Examiner asserts on pages 2 of the Office Action that the

through hole 35 of Campanelli is in a heating element wafer 36. However, it is respectfully submitted that as shown in FIGs. 5 and 6 and described in col. 6, lines 65-68 of Campanelli, the through hole 35 has an upper opening corresponding to an upper side of the polymer layer 58, a heating element 34 disposed at a bottom of the through hole 35, and sides defined by a polymer layer 58 so as to inhibit lateral movement of bubble growth of ink heated by the heating element 34 at the bottom of the through hole 35. The polymer layer 58 is shown in FIGs. 1-3 to be between a channel plate 31 and the heating element wafer 36. (Col. 6, lines 65-68; FIGs. 1-3, 5 and 6 of Campanelli). As such, Campanelli teaches that the through hole 35 extends through the polymer layer 58, but does not disclose that the through hole 35 extends through the heating element wafer 36, or that the polymer layer 58 is disposed between the through hole 35 and a channel plate 31.

On page 5 of the Office Action, the Examiner asserts that FIG. 2 of Campanelli shows a membrane (the polymer layer 58) between a nozzle part (the channel plate 31) and a heat driving part (the heating element wafer 36). The Examiner further asserts that a lower boundary of the fluid chamber (the through hole 35) is formed by an upper surface of the polymer layer 58 so as to separate the channel plate 31 from the through hole 35. However, while not explicitly shown in FIG. 2, it is respectfully submitted that the through hole 35 extends through the polymer layer 58 to the heating element 34 as shown in FIGs. 2, 5 and 6 and described in col. 6, lines 65-68. If the through hole 35 did not otherwise exist, there appears to be no disclosed mechanism by which the ink could contact the heating element 34 of the heat driving part 36. As such, while the through hole 35 is not explicitly shown in the polymer layer 58 in FIGs. 2 and 3, it is respectfully submitted that the through hole 35 is understood to be present in the polymer layer 58 in light of FIGs. 5 and 6 such that the upper surface of the polymer layer 58 does not form a lower boundary for the through hole 35 so as to separate the through hole 35 from the channel plate 31.

In contrast, claim 1 recites, among other features, "adhering a membrane to the formed

nozzle part and a heat driving part including fluid chambers for the corresponding fluid jetting apparatuses so as to position the membrane between the fluid chambers of the nozzle part and nozzles of the nozzle part to separate the fluid chambers from nozzles of the nozzle part in order to form the fluid jetting apparatuses in a shape of an undivided wafer to be split into separate fluid jetting apparatuses.” Since Hawkins ‘572 and Hawkins ‘202 are not relied upon and do not disclose such a feature, it is respectfully submitted that the combination of Campanelli, Hawkins ‘572, and Hawkins ‘202 does not disclose or suggest the invention recited in claim 1.

Claims 2 and 38 are deemed patentable due at least to their depending from claim 1.

On pages 3-4 of the Office Action, the Examiner rejects claim 17 under 35 U.S.C. §103 in view of Leban (U.S. Patent No. 5,299,785) and Baise et al. (U.S. Patent No. 4,371,565). The rejection is respectfully traversed and reconsideration is requested.

Among other features, Leban discloses forming a plastic orifice plate 14 having an orifice 20 on an insulating barrier layer 22 having a firing chamber 32. A heater resistor 36 is disposed on a thin film resistor substrate 34 so as to be at a bottom of an opening that includes the firing chamber 36 and the orifice 20. (Col. 5, lines 38-42 & 54-59; FIG. 1H of Leban). Even assuming arguendo that the insulating barrier layer 22 is disposed between the heater resistor 36 and the plastic orifice plate 14 so as to meet the definition set forth by the Examiner on page 6 of the Office Action, there is no suggestion in Leban that the insulating barrier layer 22 is disposed between the orifice 20 and either the firing chamber 36 or any other opening of the print engine.

In contrast, claim 17 recites, among other features, “adhering the membrane with the adhered nozzle part to a heat driving part such that the membrane is between chambers in the heat driving part and jetting fluid chambers of the nozzle part to form the fluid jetting apparatuses as an undivided unit.” Since Baise et al. is not relied upon as disclosing such a feature, it is respectfully submitted that the combination of Leban and Baise et al. does not disclose or suggest the invention recited in claim 17.

On pages 4-5 of the Office Action, the Examiner rejects claim 40 under 35 U.S.C. §103

in view of Leban, Baise et al., and Campanelli. The rejection is respectfully traversed and reconsideration is requested.

On pages 4-5 of the Office Action, the Examiner relies upon Campanelli as disclosing separating the fluid jetting apparatuses using a dicing blade. Even assuming arguendo that the Examiner is correct, it is respectfully submitted that Campanelli does not disclose or suggest a membrane as recited in claim 17, from which claim 40 depends. As such, it is respectfully submitted that the combination of Leban, Baise et al., and Campanelli does not disclose or suggest the invention recited in claim 40 due at least to the combination not disclosing the invention recited in claim 17, from which claim 40 depends.

STATUS OF CLAIMS NOT REJECTED:

On page 6 of the Office Action, the Examiner allows claims 13-16, 21, 24, 27, 30, and 42, and objects to claims 19 and 23 as depending from a rejected claim. Claims 19 and 23 have been made independent and have not been amended to narrow the scope of the claims. As such, it is respectfully requested that the Examiner reconsider and withdraw the objections to claims 19 and 23.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited. At a minimum, it is requested that this Amendment be entered for purposes of Appeal as it either clarifies and/or narrows the issues for Appeal.

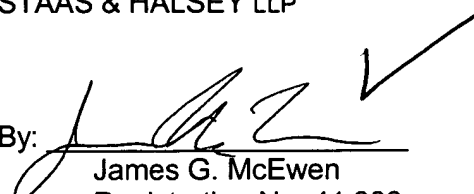
If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

If there are any additional fees associated with the filing of this Response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

By:


James G. McEwen
Registration No. 41,983

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

Date: SEPT. 9, 2003